

**Remarks**

Claims 20, 27, 29-30, and 32-33 have been amended. Claims 16-19, 23-26, 40-45, and 48 have been withdrawn. Claim 28 has been cancelled. Claims 20-22, 27, 29-39, and 46-47 are currently pending in the present application.

Support for claim 27 as amended is found in the present application, for example on page 27, ll. 7-11; page 11, ll. 10-19; page 41, ll. 28-30; page 47, ll. 21-29; and in original claim 28 as filed.

**I. § 112, ¶ 2 Rejections**

Claims 20-22, 27-39, 46, and 47 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

**A. Claim 20 Is Not Indefinite**

Claim 20, as amended, particularly points out and distinctly claims the subject matter regarded as the invention. As suggested by the Examiner, amended claim 20 is directed to an array comprising “subpopulations of beads dispersed on a substrate.” Applicants thank the Examiner for the suggested amendment and respectfully submit that claim 20, as amended, is not indefinite. Reconsideration and withdrawal of the rejection is respectfully requested.

**B. Claim 27 Is Not Indefinite**

Claim 27, as amended, particularly points out and distinctly claims the subject matter regarded as the invention. Amended claim 27 is directed to “contacting said array with a composition comprising at least a first target analyte, thereby producing a response signal at said sensor elements.” Thus, it is respectfully submitted that claim 27 particularly points out and distinctly claims how said sensor elements relate to a first target analyte. Reconsideration and withdrawal of the rejection is respectfully requested.

**C. Claims 32 and 33 Are Not Indefinite**

Claims 32 and 33, as amended, particularly point out and distinctly claim the subject matter regarded as the invention. Amended claim 32 is directed to “calculating the mean of at least said measurements from said first of said plurality of subpopulations, and claim 33 is directed to “calculating the standard deviation of at least said measurements from said first of said plurality of subpopulations.” Thus, it is respectfully submitted that claims 32 and 33 do not

lack antecedent basis. Reconsideration and withdrawal of the rejections is respectfully requested.

**D. Claims Depending from Claims 20, 27, 32, and 33 Are Patentable**

Because claims 20-22, 29-39, and 46-47 depend directly or indirectly from claims 20, 27, 32, or 33 and incorporate all the limitations of claims 20, 27, 32, or 33, the above argument obviates the basis for these grounds of rejection. Thus, claims 20-22, 29-39, and 46-47 are not indefinite. Reconsideration and withdrawal of the rejection is respectfully requested.

**II. § 103(a) Rejections**

Claims 27-39 and 47 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,837,196 (“Pinkel”) in view of U.S. Patent 5,739,000 (“Bierre”). Further, claims 20, 22, and 47 were rejected as being unpatentable over Pinkel in view of Bierre as applied to claims 27-39 and 47 above and further in view of U.S. Patent 5,559,668 (“Stimpson”). In addition, claim 21 was rejected as being unpatentable over Pinkel in view of Bierre as applied to claims 7-39 and 47 above and further in view of Stimpson and an article entitled “Antigen-Antibody Diffusion-Limited Binding Kinetics for Biosensors: A Fractal Analysis,” Sensors and Actuators B 32 (1996) 195-20 (“Sadana”). It is respectfully submitted that claims 20-22, 27, 29-39, and 46-47 are patentable.

**A. Independent Claim 27 Is Not Made Obvious by Pinkel In View of Bierre Because Bierre Teaches Away from the Combination and Further Renders Such a Combination Inoperable**

Pinkel teaches the collection of multiparameter data from each sensor. That is, Pinkel discloses an optical fiber array that “contains fibers capable of assaying simultaneously the binding of components of a test sample to the various binding partners on the different fibers of [the] optical fiber array.” See Pinkel, col. 4, ll. 4-6. “By using . . . fully automated, computerized apparatus and analytical systems, . . . a variety of different measurements made and diverse parameters [are] measured *concurrently* within a single fluid sample.” Id. at col. 13, ll. 38-42. Bierre, in contrast, requires the collection of one data parameter or “event” from one cell at a time. More specifically, the Bierre hierarchical algorithm “classifies each incoming event along a downward cascade of populations until it can no further be sub-classified.” See Bierre, col. 2, ll. 23-25. For example, “a cell is first tested against the criteria for being a lymphocyte. If it qualifies, it is accumulated into the lymph population statistics, then tested to see if it can be subclassified as either CD3- or CD3+. If so, the event is accumulated into the

population statistics of that subset.” *Id.* at col. 2, ll. 26-30. And the hierarchical testing continues in this fashion. Given that Pinkel teaches the collection of multiparameter data while Bierre requires hierarchical collection of a single parameter from a single cell at a time, the statistical analysis taught in Bierre cannot be used to analyze the data collected in Pinkel. As such, Bierre teaches away from the combination with Pinkel. The Federal Circuit has held that prior art which would “discourage” the ordinarily skilled artisan from attempting the claimed invention cannot validly support a rejection under 35 U.S.C. § 103. *See Gillette Co. v. S.C. Johnson & Sons, Inc.*, 16 USPQ.2d 1350 (Fed. Cir. 1987). Further, the combination of the two references would be rendered inoperable by the differing methods of data collection. If the proposed combination renders the prior art combination unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed combination. *See* MPEP Section 2143.01; *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Thus, it is respectfully submitted that Pinkel and Bierre cannot validly support a rejection of claim 27.

Claim 27, therefore, stands in condition for allowance. Reconsideration and withdrawal of the rejection is respectfully requested.

**B. Claims Depending from Claim 27 Are Patentable**

Because claims 20-22, 29-39, and 46-47 depend directly or indirectly from claim 27 and incorporate all the limitations of claim 27, the above argument obviates the basis for this ground of rejection. Thus, claims 20-22, 29-39, and 46-47 are not made obvious over Pinkel in view of Bierre. Reconsideration and withdrawal of the rejection is respectfully requested.

**C. Claims 20, 22, and 47 Are Not Made Obvious by Pinkel in View of Bierre and Further in View of Stimpson**

As discussed above, Bierre teaches away from the combination with Pinkel, and further, the combination of the two references would be rendered inoperable by the differing methods of data collection. Thus, Pinkel and Bierre cannot support a rejection of claim 27. Furthermore, Stimpson does not overcome the teaching away in Pinkel and Bierre, nor does the reference overcome the deficiencies of the Pinkel and Bierre regarding the operability of the alleged combination. Thus, claims 20, 22, and 47 are patentable. Reconsideration and withdrawal of the rejections is respectfully requested.

**D. Claim 21 Is Not Made Obvious by Pinkel in View of Bierre and Further in View of Stimpson and Sadana**

As discussed above, Pinkel and Bierre cannot support a rejection of claim 27. Furthermore, Stimpson and Sadana do not overcome the teaching away in Pinkel and Bierre, nor do the references overcome the deficiencies of Pinkel and Bierre regarding the operability of the alleged combination. Thus, claim 21 is patentable. Reconsideration and withdrawal of the rejections is respectfully requested.

**Conclusion**

Applicant has obviated by amendment and argument the rejections of claims 20-22, 27, 29-39, and 46-47. Consequently, claims 20-22, 27, 29-39, and 46-47 are allowable. Reconsideration and a Notice of Allowance for all pending claims is respectfully requested.

This response is timely filed on or before April 1, 2005, along with a two-month extension fee. Although Applicants do not believe any additional fees are required, the Commissioner is authorized to charge any additional fees, including extension fees or other relief which may be required, or credit any overpayment, to Deposit Account No. 50-2319 (A-67207-2/RMS (469420-26).

Respectfully submitted,

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